AMERICAN MUSEUM NOVITATES

Number 727 | Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City | May 29, 1934

59.57,72 S (67.5)

SARCOPHAGINAE OF THE AMERICAN MUSEUM CONGO EXPEDITION. (DIPTERA)[1]

BY C. H. CURRAN

FIGURES 1 TO 41

The Diptera of the American Museum Congo Expedition, with the exception of the Tabanidae and Sarcophaginae, have been recorded in the Bulletin of The American Museum of Natural History.[2] With the publication of the present contribution, records will have been printed of the entire collection of flies made by the members of the expedition. The report on the Tabanidae by Dr. Joseph C. Bequaert appeared in June, 1932.[3]

In addition to the material collected by Messrs. Lang and Chapin, I have included in this report additional material secured by Dr. J. Bequaert and others in equatorial Africa as well as a number of forms from the southern part of the continent, received from Messrs. H. K. Munro and Alexander Cuthbertson. In the case of each species I have prepared drawings illustrating the male genitalia as seen from the side, and in some instances other views are given.

Of the seventy names available for African species of *Sarcophaga* only twenty recorded from the Ethiopian region can be identified, since the genitalia have been illustrated for only this number. A number of the species recorded from the Palaearctic region of Africa are, of course, well known, but the identifications of some of these must be verified. Even when a described species has some apparently conspicuous character that would seem to mark it as distinct from all others, it is not safe to identify it unless the genitalia have been figured, since it is likely that several species will be found to possess the same character. Many of the species before me cannot be separated with any degree of certainty until the male genitalia have been examined, and some are impossible to distinguish by other characters. For this reason I have described as new all species differing from those in which genitalic figures have been published, and it is to be hoped that the types of described species may be examined and the synonymy, if any, determined.

[1]Scientific Results of the American Museum Congo Expedition, Entomology, No. 25.
[2]Volume LVII, Arts. 2 and 4, and volume LVIII, Art. 4.
[3]Amer. Mus. Novit., No. 539, pp. 1–19.

There is a great divergence of opinion regarding the generic limits in the group, and a thorough study of the world fauna will be necessary before any degree of stability can be reached. The presence or absence of propleural hairs does not appear to be of importance in the genus *Sarcophaga* Meigen, but in other cases the character furnishes a simple means of separating the genera. The name *Boettcheria* is available for the species of *Sarcophaga* having the propleura haired, but in some American species the character is of no value as the females may entirely lack the hair. The genus *Helicobia* Coquillett may be recognized because of the bristled first vein. This is not always a generic character, but in this case it separates a fairly large group of species from an unwieldy genus and its use undoubtedly simplifies the identification of the species. Some authors have used *Bercaea* Desvoidy for this genus, but I cannot follow this procedure, since Desvoidy named *haemorrhoidalis* as type of the genus and this species is a true *Sarcophaga*. It is possible that *haemorrhoidalis* Desvoidy is not the same as *haemorrhoidalis* Fallén, but this is not apparent from the description. The name *Bercaea* is better ignored, even though the character of the bristled first vein was used by Desvoidy for the genus, because of the confusion concerning the genotype.

In the key to the males I have used characters other than those found on the genitalia, wherever possible, but these may not always hold, and a comparison of the figures and genitalia of specimens must form the final corroboration. The number of African species belonging to this subfamily no doubt will be found to greatly exceed one hundred, so it is to be expected that several species will trace to the same place in the key. It must be remembered that parts of the genitalia are movable and that there often may be apparent differences in the same species. In small specimens the amount of long hairs on the legs is usually much less than in large specimens of the same species. The measurements of the front are made at the narrowest point and the width of the eye is taken at the widest point, the eye being examined so that its greatest surface is observed. Measurements made in this way are easier to correlate than comparison of the front with the width of the whole head.

Types of all the new species will be found in The American Museum of Natural History.

Key to Males of *Sarcophaga* and Allied Genera

1.—First vein of the wings bare.....2.
First vein bristled.....36.
2.—Propleura bare in the middle.....3.
Propleura haired.....26.

3.—Arista plumose.....4.
Arista short pubescent; abdomen densely cinereous pollinose, with black spots. *Wohlfahrtia euvitta* Villeneuve.
4.—Wings conspicuously yellowish basally.....5.
Wings not at all yellowish basally.....6.
5.—Middle tibiae long villous.....*Agria ? munroi* Curran.
Middle tibiae without long hairs.....*Agria ? condona*, n. sp.
6.—Posterior tibiae villous or with very long hairs on one or other of the ventral surfaces.....9.
Hairs of the posterior tibiae not or scarcely longer than the tibial thickness...7.
7.—Second genital segment mostly black in ground color, cinereous pollinose....8.
Second genital segment shining reddish.....*S. batissa*, n. sp.
8.—Genitalia as in figure 35.....*S. fasciventris*, n. sp.
Genitalia as in figure 38.....*S. binodosa*, n. sp.
9.—Postsutural dorsocentrals variable; if three pairs present, the anterior pair is situated almost its own length behind the suture.....10.
Three pairs of strong postsutural dorsocentrals, the anterior pair situated rather close to the suture.....*S. gnu*, n. sp.
10.—Second genital segment wholly or almost all reddish; if blackened above, the hind tibiae villous.....11.
Second genital segment shining black; hind tibiae with long but not abundant hairs.....*S. maritima* Engel.
11.—Second abdominal segment without strong median marginals.....16.
Second abdominal segment with a pair of long, usually erect, median marginals. 12.
12.—Three strong sternopleurals in an almost straight line.....13.
Sternopleurals 1–1; if three are present, one is weak and placed below the strong anterior.....*S. vicaria*, n. sp.
13.—Presutural acrosticals wholly undifferentiated; prescutellars rarely more than half as long as the scutellum.....14.
Presutural acrosticals conspicuous, but not much more than twice as long as the stout hairs; prescutellars as long as the scutellum.....*S. villa*, n. sp.
14.—Apical scutellars present.....15.
Apical scutellars wholly absent.....*S. chapini*, n. sp.
15.—Lateral teeth on penis very strong, the lower serrate (Figs. 27, 28). *S. liberia*, n. sp.
Teeth much weaker (Figs. 29, 30).....*S. samia*, n. sp.
16.—Palpi black or brown on apical half or more, rarely reddish brown.....17.
Palpi wholly dull reddish-yellow.....*S. dura*, n. sp.
17.—Posterior femora with several strong, anteroventral bristles on apical half or more.....19.
Posterior femora with hairlike bristles on anteroventral surface, only the apical bristle strong.....18.
18.—Prescutellar acrosticals long and strong.....*S. langi*, n. sp.
Prescutellars entirely absent.....*S. falciforceps* Villeneuve.
19.—First genital segment with two or more bristles or bristly hairs apically much stouter than the surrounding hairs.....20.
First genital segment almost evenly haired, without bristly hairs.....22.

20.—Posterior forceps with a deep notch before the middle as seen in profile (Fig. 32). *S. haemorrhoidalis* Fallén.

Posterior forceps differently shaped....21.

21.—Posterior forceps strongly and angularly produced near the middle (Fig. 6). *S. arno*, n. sp.

Posterior forceps not so produced (Fig. 9)....*S. burungae*, n. sp.

22.—Prescutellar acrosticals absent or very weak; genitalia as in figures 14, 15. *S. beckeri* Villeneuve.

Prescutellars well developed; genitalia different....23.

23.—The long hair beneath the middle femora ends abruptly in a longer, denser tuft just beyond the middle; genitalia as in figure 10....*S. garbo*, n. sp.

The long hair is not so strongly tufted or not at all so....24.

24.—Fourth abdominal segment broadly reddish apically....25.

Fourth abdominal segment wholly black; genitalia as in figure 19...*S. inzi*, n. sp..

25.—Palpi large and usually swollen apically (Fig. 16)....*S. mulaba*, n. sp.

Palpi slender, as usual (Fig. 40)....*S. musitali*, n. sp.

26.—Anterior cross-vein surrounded by a large blackish spot....34.

Anterior cross-vein at most weakly clouded....27.

27.—Posterior femora with the bristles on the basal half of the anteroventral edge as strong as those on the apical half, rarely only a single strong bristle near the base....28.

Posterior femora with at most a weak bristle on the basal half of the anteroventral surface and only two or three strong ones on the apical half. *S. afra*, n. sp.

28.—Second abdominal segment with a pair of strong, erect, medium marginals; fifth sternite not furcate....29.

Second abdominal segment without median marginals....30.

29.—Penis with a pair of recurved apical processes (Fig. 18)....*S. alina*, n. sp.

Penis with a single, broad, recurved apical process (Fig. 26)....*S. momba*, n. sp.

30.—At least two stout bristles on the basal half of the anteroventral surface of the posterior femora....31.

A single bristle on the basal half of the anteroventral surface of the posterior femora....*S. furcadorsalis* Rohdendorf.

31.—Fifth sternite swollen and produced downward on basal half in the middle....32.

Fifth sternite much more deeply divided and not swollen on the basal half....33.

32.—Genitalia as in figure 20....*S. kisangani*, n. sp.

Genitalia as in figure 41....*S. bulamatadi*, n. sp.

33.—Genitalia as in figure 13....*S. surda*, n. sp.

Genitalia as in figure 12....*S. inducta*, n. sp.

34.—Genitalia shining black....*Poecilometopa notatipennis* Austen.

Second genital segment reddish....35.

35.—Densely yellowish-gray pollinose species (Fig. 7). *Poecilometopa spilogaster* Wiedemann.

Blue-gray species, much more shining (Fig. 33)..*Poecilometopa congensis*, n. sp.

36.—Middle of propleura haired....38.

Middle of propleura bare....*Helicobia alerta*, n. sp.

37.—Posterior tibiae villous....*Helicobia selene*, n. sp.

Posterior tibiae without long hairs....*Helicobia munroi*, n. sp.

Wohlfahrtia Brauer and Bergenstamm

The only described Ethiopian species occurs in South Africa.

Wohlfahrtia euvittata Villeneuve

Figure 1

VILLENEUVE, 1920, Rev. Zool. Afr., VIII, p. 164.

Two specimens of each sex, Jansenville, Cape Province, June 20, 1921.

AGRIA

I refer two South African species to this genus with a query, since the status of *Agria* is somewhat in doubt.

Agria ? munroi Curran

Figure 11

Angiometopia munroi CURRAN, 1927, Ann. Mag. Nat. Hist., XIX, p. 527.
?Agria brunnipalpis MACQUART, 1850, 'Dipt. Exot.,' Suppl., IV, p. 235.
?Sarcophaga elegantipes VILLENEUVE, 1921, Rev. Zool. Afr., IX, p. 31.

My description of this species was based on five specimens of both sexes from Uitenhage, South Africa, collected by Mr. H. K. Munro on March 5, 1919. No additional material has been examined.

Malloch has expressed the opinion that *munroi* is a synonym of *elegantipes*, and I find that the description of *brunnipalpis* would fit the species very well. Malloch would place the species of *Sarcophaga*, but the shape of the head indicates that it belongs to a different genus.

Agria ? condona, new species

Figure 3

Similar to the preceding but the posterior tibiae bear only a few long hairs situated on the anteroventral surface. Length, 13 mm.

MALE.—Head silvery-white pollinose; front four-sevenths as wide as either eye, gently widening posteriorly and strongly widening in front; frontal bristles only slightly diverging opposite the antennae; ocellars long and strong; occipital cilia reaching to the cheeks, an irregular row of black hairs behind them; occipital pile pale yellowish; cheeks with black hair; parafacials wide, with rather sparse, moderately long black hairs. Palpi blackish. Antennae black, the third segment only slightly longer than the second; arista with rather short rays on the basal half.

Thorax cinereous pollinose, the mesonotum with three moderately wide black vittae, the median one extending over the scutellum. Acrosticals, 0–1; dorsocentrals, 0–2; sternopleurals, 1–1–1; three pairs of marginal scutellars and a weak sub-discal pair; propleura and prosternum bare.

Legs black, rather thinly cinereous pollinose; middle femora with some long hair posteroventrally; posterior femora with the anteroventral row of bristles complete;

posterior tibiae with some long posteroventral hairs and a few shorter ones anteroventrally.

Wings cinereous hyaline, the veins mostly yellowish; upper lobe of squamae yellow, the lower mostly white. Halteres reddish yellow.

Abdomen blue-black, thickly whitish pollinose, with black spots that change from different views. Fifth sternite U-shaped, the apex filled with dense black spines; first genital segment shining blackish or brown, without bristles, the second orange. Lateral view of genitalia as in figure 3.

FEMALE.—Smaller; 8 to 10.5 mm. Front as wide as either eye; two rows of black bristly hairs behind the upper occipital cilia; scutellum with two pairs of marginal bristles only, the discals and apicals absent; legs without long hairs. First genital segment reddish, longitudinally divided, the sides of the genital opening bordered with black bristles; sixth sternite remarkably long, black and cinereous pollinose on the basal half, the apical half reddish; on either side near the middle with three bristles in a transverse row, the apex very gently rounded.

TYPES.—Holotype, male, and allotype, female, Uitenhage, Cape Province, March 12, 1919. Paratypes: male, Uitenhage, March 15, 1919 (H. K. Munro), and female, Grootvlei, South Africa, December 9, 1914.

The male is readily distinguished from *munroi* by the long villous tibiae; the female is less easily separated but the sixth sternite is somewhat shorter in *munroi*, more transverse at the apex, and there is an even row of bristles across its middle.

It is not impossible that this species, and not *munroi*, is the same as *brunnipalpis* Macquart, but no species can be identified with certainty until the types have been re-examined and the genitalia studied.

Sarcophaga batissa, new species

Figre 31

Tibiae without long hairs; prescutellars long and strong, second genital segment shining deep orange. Length, 10.5 to 12.5 mm.

MALE.—Head silvery-white pollinose; front slightly more than one-third as wide as either eye, widening anteriorly; frontals moderately diverging opposite the antennae. A complete row of black hairs behind the occipital cilia and a secondary row above; occipital pile yellowish white; cheeks with black hair; parafacials with a row of short, fine bristly hairs below and a few scattered hairs on the upper half. Palpi dark brown. Antennae brownish, the third segment twice as long as the second.

Thorax cinereous pollinose, the black vittae very conspicuous, the middle one extending almost to the apex of the scutellum. Acrosticals, 0–1; dorsocentrals, 2–3; sternopleurals, 1–1–1; apical scutellars about as strong as the discals; propleura bare.

Legs black, with cinereous pollen, the tibiae reddish brown. Posterior femora with two or three anteroventral bristles on the apical half; femora and tibiae without long hairs.

Wings cinereous hyaline; third vein bristled about halfway to small cross-vein. Squamae white, the disc sometimes tinged with brown. Halteres reddish, the knob largely brownish.

Abdomen tessellate with cinereous pollen, the second segment without median marginals although there may sometimes be a very weak appressed pair. Fifth sternite divided on more than the apical half, the arms diverging V-like. Lateral view of male genitalia as in figure 31.

TYPES.—Holotype, male, and five male paratypes, Stanleyville, Congo, March, 1915, March 9, 1915, April, 1915, April 4, 6, 1915 (Lang and Chapin), two taken from *Bembex*. The holotype is labelled "March."

I have not been able to associate any females with this species.

Sarcophaga fasciventris, new species

Figure 35

Black, cinereous pollinose; abdomen with a median vitta and the apices of the segments black, weakly tessellate. Length, 10.5 to 12 mm.

MALE.—Head dull silvery-white pollinose. Front about two-sevenths as wide as one eye; frontal bristles rather gently diverging opposite the antennae; ocellars moderately long and rather weak. Occiput white-haired, with two or three irregular rows of black bristly hairs behind the occipital cilia; cheeks with coarse black hair; parafacials with a partly double row of short black hairs. Palpi black. Antennae brown, the third segment more than twice as long as the second.

Thorax cinereous pollinose, the dark mesonotal vittae moderately narrow, the median one very narrow and extending as a brown stripe on to the scutellum. Acrosticals, 3–3; dorsocentrals, 3–3; sternopleurals, 1–1–1; three pairs of marginal scutellars, the apical pair weak; a weak pair of discals. Propleura bare.

Legs black, with cinereous pollen, the tibiae dark brownish-red, without long hairs; posterior femora with only one strong anteroventral bristle on the basal half.

Wings cinereous hyaline, but broadly tinged with brown along the veins. Squamae white, the disc of the lower lobe brown. Halteres pale orange.

Abdomen cinereous pollinose, a median vitta on the first three segments and the broad apices of the segments brown pollinose and appearing black, the fasciae more or less triangularly widened toward the sides but evanescent toward the lateral edges of the tergites. Genitalia small, black, cinereous pollinose, the first segment with or without a pair of apical hairlike bristles; forceps and claspers mostly reddish (Fig. 35).

TYPES.—Holotype, male, and paratype, male, Stanleyville, Congo, March, 1915 (Lang and Chapin), taken from *Bembex*.

Sarcophaga binodosa, new species

Figure 38

Wings light brownish, the posterior border cinereous; tibiae without long hairs; genitalia small. Length, 11 mm.

MALE.—Head white pollinose. Front scarcely two-sevenths as wide as either eye; frontals diverging below; ocellars weak. Occiput with whitish pile and two or three irregular rows of black hairs behind the occipital cilia; hair of cheeks all black, rather fine. Parafacials with two rows of fine black hairs, the upper ones more brownish, two or three of the lower ones bristle-like but not long. Palpi brown. Third antennal segment twice as long as the second.

Thorax cinereous pollinose; mesonotal vittae moderately wide, the median one extending to beyond the middle of the scutellum. Acrosticals, 2 or 3–3; dorsocentrals, 3–3; sternopleurals, 1–1–1; propleura bare. Apical scutellars about as long as the discals.

Legs black, with cinereous pollen, the tibiae reddish brown, without long hairs; posterior femora with a few long hairs on each ventral edge.

Wings light brownish, the posterior border broadly cinereous. Squamae brownish with whitish border. Halteres yellow, the knob mostly brown.

Abdomen cinereous pollinose, a median vitta and the broad segmental apices broadly brown pollinose, appearing black, the dark bands slightly broadened toward the sides and continuing almost to the lateral edges of the tergites except on the first segment which is almost all dark dorsally. Genitalia small, black, yellowish-cinereous pollinose; arms of fifth sternite gently diverging. Lateral view of genitalia as in figure 38.

TYPE.—Male, Stanleyville, Congo, March, 1915 (Lang and Chapin), taken from *Bembex*.

Sarcophaga gnu, new species

Figure 37

Three postsutural dorsocentrals; posterior tibiae with long hairs; abdomen tessellate. Length, 12 to 13 mm.

MALE.—Head whitish pollinose, in some views rather silvery. Front almost three-sevenths as wide as eye, the frontals diverging opposite the base of the antennae; ocellars very weak or absent. Occipital pile pale yellowish; several rows of black hairs behind the occipital cilia, cheeks with coarse black hair. Parafacials with two rows of hairs above and a single row of bristly hairs below. Palpi black. Antennae brown, the third segment twice as long as the second.

Thorax cinereous pollinose, the black mesonotal vittae strong and moderately wide, the median one extending almost to the apex of the scutellum. Acrosticals very poorly developed or absent, except the strong prescutellars; three strong postsutural dorsocentrals; sternopleurals, 1–1–1; propleura bare. Three pairs of marginal scutellars, the apicals long; one pair of long discals.

Legs black, with cinereous pollen; posterior tibiae dark brownish-red, with rather sparse long hairs on either ventral edge; posterior femora with the anteroventral bristles extending to the basal half.

Wings cinereous hyaline, sometimes with brownish tinge. Squamae white, the middle of the disc sometimes tinged with brown. Halteres yellow, the knob mostly reddish brown.

Abdomen with cinereous or yellowish-cinereous pollen, strongly tessellate; apices of segments narrowly dark; second segment without median marginals. Fifth sternite narrowly U-shaped, the edges with fairly numerous short bristles. Genitalia reddish, the first segment thinly pale pollinose and without bristles; second segment with some long, bristly hairs apically; lateral view of genitalia as in figure 37.

FEMALE.—Parafacials with irregular single row of hairs; front almost two-thirds as wide as eye; all the tibiae mostly brownish red; tibiae without long hairs; wings more strongly tinged with brown along the veins; apex of fourth abdominal segment sometimes dull reddish; genitalia wholly concealed from dorsal view, the genital opening wide, the sides with several bristles.

TYPES.—Holotype, male, and allotype, female, Stanleyville, Congo, March, 1915 (Lang and Chapin). Paratypes: seventeen males and four females, same data, all taken from *Bembex*.

Sarcophaga maritima Engel

ENGEL, 1925, Bull. Soc. Roy. Ent. Egypt., (1924), p. 338.

Two males, Port Elizabeth, South Africa, February 25, 1919 (H. K. Munro).

An easily recognized species because of the shining black genital segments and the distinctive genitalia. It is evidently a coastal species and is known only from South Africa.

Sarcophaga vicaria, new species

Figure 22

Posterior tibiae with a few long hairs; two sternopleurals; veins bordered with brown. Length, 12 to 13 mm.

MALE.—Head white pollinose, rather silvery. Front two-thirds as wide as eye; frontals strongly diverging below; ocellars rather short. Occipital pile pale yellowish; three rows of black hairs behind the occipital cilia; cheeks black-haired. Parafacials moderately wide, with numerous black hairs, three or four of the lower ones stout but not long. Palpi brown. Antennae brown, rather short, the third segment twice as long as the second.

Thorax cinereous pollinose, the dark mesonotal vittae of moderate width, the median one extending almost to the apex of the scutellum. Prescutellars long; two pairs of strong postsutural dorsocentrals and two or three weak pairs; sternopleurals normally 1–1, but there may be a third weak one below the anterior bristle; three or four pairs of marginal scutellars, the apical pair weak, the second pair sometimes very weak and little apparent.

Legs black, with cinereous pollen, the posterior four tibiae more or less castaneous; posterior tibiae with row of long, coarse hairs on the apical half of either ventral edge.

Wings cinereous hyaline, broadly bordered with light brown along the veins. Disc of squamae strongly tinged with brown. Halteres mostly reddish, the base of the knob tinged with brown.

Abdomen cinereous pollinose, strongly tessellate; second segment with a pair of strong median marginals. Arms of fifth sternite strongly divergent. Genitalia small, orange, the basal segment yellow pollinose and without bristles; lateral view of genitalia as in figure 22.

TYPES.—Holotype, male, Stanleyville, Congo, March, 1915; paratype, male, Stanleyville, April 7, 1915 (Lang and Chapin), both taken from *Bembex*.

Sarcophaga villa, new species

Figure 17

Posterior tibiae weakly villous; second abdominal segment with weak marginals. Length, 8 to 11 mm.

MALE.—Head silvery-white pollinose. Front half as wide as eye; frontals

strongly diverging below; ocellars weak. Occiput white pilose, an irregular row of black hairs behind the cilia and a partial second row above; cheeks wholly black-haired. Parafacials with a single row of short black hairs, the lower ones stronger. Vibrissae situated level with the oral margin. Palpi black. Antennae brown, the third segment twice as long as the second.

Thorax cinereous pollinose, the black mesonotal vittae of moderate width, the median one extending almost to the apex of the scutellum. Acrosticals weakly developed, the prescutellar pair strong; four postsutural dorsocentrals; sternopleurals, 1–1–1; three pairs of marginal scutellars, the apical pair short and decussate; propleura bare.

Legs black, with cinereous pollen. Posterior tibiae conspicuously villous in large specimens, with much less long hair in small examples; posterior femora with at most one strong anteroventral bristle on the basal half.

Wings cinereous hyaline. Squamae white. Halteres brown on apical half.

Abdomen cinereous pollinose, strongly tessellate; second segment with a pair of moderately long, weak median marginals. Arms of fifth sternite diverging. Genitalia reddish, the first segment pale pollinose and bearing two or more bristly hairs behind. Lateral view of male genitalia as in figure 17.

TYPES.—Holotype, male, Victoria Falls, Southern Rhodesia, August, 1932 (A. Cuthbertson). Paratype, male, New Hanover, Natal, May 20, 1915 (C. B. Hardenberg).

Sarcophaga chapini, new species

Figure 34

Posterior tibiae with long hairs on both lower edges; three pairs of postsutural dorsocentrals; genital segments reddish. Length, 12 mm.

MALE.—Head white pollinose, the face and front with strong brassy yellow tinge. Front slightly less than one-third as wide as one eye; frontals strongly diverging opposite the antennae; ocellars weak. Occipital pile very pale yellowish, two or three rows of black hairs behind the occipital cilia; hair of cheeks wholly black. Parafacials with a row of hairs near the eyes and three or four fine bristles below. Palpi brown. Antennae brown, the third segment twice as long as the second.

Thorax cinereous pollinose, the black mesonotal vittae of moderate width, the median one continued on to the scutellum. Acrosticals, 0–1; three pairs of postsutural dorsocentrals; sternopleurals, 1–1–1; two pairs of marginal scutellars, the apical pair absent; propleura bare.

Legs black, with cinereous pollen, the posterior tibiae with long hairs anteroventrally and villous behind.

Wings cinereous hyaline, the veins bordered with brown. Squamae white, the disc of the lower lobe brown. Halteres reddish yellow.

Abdomen cinereous pollinose, strongly tessellate; second segment with a pair of long median marginals. Fifth sternite with the arms diverging V-like, the inner edges with long bristly hairs basally and short ones apically. First genital segment mostly reddish, thinly pale pollinose, with several fine apical bristles. Lateral view of genitalia as in figure 34.

TYPE.—Male, Stanleyville, Congo (Lang and Chapin), taken from *Bembex*.

Sarcophaga liberia, new species

Figures 27 and 28

Wings brownish, pale posteriorly; hind tibiae with long hairs; three pairs of postsutural dorsocentrals. Length, 11 to 14 mm.

MALE.—Head white pollinose, the parafrontals very narrow and rather dark above. Front slightly less than one-third as wide as either eye; frontals diverging below; ocellars short and weak. Occipital pile dull, pale yellowish, the hair black; cheeks with coarse black hair. Parafacials with a row of hairs and two or three moderately strong bristles below. Palpi black. Antennae brown, long, the third segment more than twice as long as the second. Vibrissae situated only slightly above the oral margin.

Thorax cinereous-white pollinose, the black mesonotal vittae rather wide, the median one distinctly the widest and continued almost to the apex of the scutellum. Acrosticals, 0–1; three pairs of strong postsutural dorsocentrals; sternopleurals, 1–1–1; propleura bare. Scutellum with three pairs of marginals, the apical pair decussate.

Legs black, with cinereous pollen; posterior tibiae villous.

Wings brownish, the posterior border cinereous; anterior cross-vein with distinct, narrow brown cloud. Squamae light brownish, the border and base pale yellowish. Halteres with brown knob.

Abdomen strongly tessellate, the pollen grayish with rich brownish tinge in some lights; second segment with a pair of strong median marginals. Arms of fifth sternite diverging V-like, the inner edges with moderately long bristly hairs. Genitalia small, the first segment blackish and rather thinly cinereous pollinose, with a pair of widely separated apical bristles; second segment shining reddish. Lateral and posterior views of the genitalia are shown in figures 27 and 28.

TYPES.—Holotype, male, Bakratown, Liberia, September 30. Paratypes: male, Bakratown, September 30; two males, Betala, Liberia, October 13; two males, Paiata, Liberia, October 19; and male, Du River Camp No. 2, Liberia (J. Bequaert).

Sarcophaga samia, new species

Figures 29 and 30

Very similar to *liberia*, new species, but with less strongly tessellate abdomen, paler wings, and different genitalia. Length, 8 to 14 mm.

MALE.—Head rather silvery-white pollinose, the parafrontals not dark above. Front five-twelfths as wide as either eye; frontal bristles moderately divergent opposite the base of the antennae; ocellars moderately long but weak. Occiput with dull yellowish-white hair and coarse black hairs. Cheeks clothed with coarse black hair. Parafacials with a single row of hairs and two or three weak bristles or bristly hairs below, rarely with a rather strong bristle. Palpi black. Antennae brown, elongate, the third segment narrow and twice as long as the second. Vibrissae situated almost level with the oral margin.

Thorax cinereous pollinose, the black mesonotal vittae of moderate width, the median one not or but little wider than the outer ones. Acrosticals, 0–1; three pairs of strong postsutural dorsocentrals; three pairs of marginal scutellars, the apical pair decussate; propleura bare.

Legs black, with cinereous pollen, the posterior tibiae weakly villous.

Wings cinereous hyaline, the veins more or less strongly bordered with brown. Squamae white, in dark-winged specimens with the disc brownish or brown with yellowish border and white base. Knob of halteres brown.

Abdomen cinereous pollinose, moderately tessellate, the second segment with a pair of large median marginals. Arms of fifth sternite diverging V-like, with rather long, bristly hairs along the inner edges. Genitalia small, the first segment blackish and with thin cinereous pollen, its apex usually with a pair of stronger, bristly hairs. Lateral and posterior views of the genitalia are shown in figures 29 and 30.

FEMALE.—Front almost two-thirds as wide as either eye, the sides evenly diverging from the vertex; parafacials with two or three strong bristly hairs below. Tibiae without long hairs. Abdomen more strongly tessellate.

TYPES.—Holotype, male, Stanleyville, Congo, April 6, 1915; allotype, female, Monrovia, Liberia. Paratypes: five males, five females, Stanleyville, Congo, March and April 2, 9, 1915; four males and one female, Monrovia, Liberia.

The Congo specimens were collected by Lang and Chapin and were mostly taken from *Bembex;* the Liberian specimens were reared by Dr. J. Bequaert from decaying snails.

Sarcophaga dura, new species

Figure 4

Palpi reddish; hind tibiae villous; two strong postsutural dorsocentrals. Length, 11.5 mm.

MALE.—Head white pollinose, the parafrontals wide, with brassy yellow tinge. Front two-thirds as wide as either eye; frontals but slightly diverging below; ocellars very weak and divergent. Occiput yellowish-white pilose, without black hairs behind the cilia; cheeks mostly white-haired. Parafacials wide, with scattered short, black hairs. Palpi pale reddish. Antennae rather short, brown, the second segment reddish, the third twice as long as the second. Vibrissae situated almost level with the oral margin.

Thorax yellowish-cinereous pollinose, the black mesonotal vittae rather dull, the median one narrow except where it extends on to the scutellum. Acrosticals, 0–1; two pairs of strong postsutural dorsocentrals, the other dorsocentrals short and mostly weak; sternopleurals, 1–1–1; three pairs of marginal scutellars, the apical pair weak and decussate.

Legs black, with cinereous pollen, the tibiae partly dark reddish, the posterior pair villous beneath.

Wings cinereous hyaline. Squamae white. Halteres reddish yellow.

Abdomen yellowish-cinereous pollinose, moderately tessellate. Arms of fifth sternite diverging U-like, the inner edges with black bristles. Genital segments reddish. Lateral view of genitalia as in figure 4.

HOLOTYPE.—Male, Monrovia, Liberia (J. Bequaert).

Sarcophaga langi, new species

Figure 5

Posterior tibiae villous; second abdominal segment without median marginals. Length, 13 to 15 mm.

MALE.—Face and front cinereous-yellow pollinose, somewhat brassy. Front three-eighths as wide as one eye; frontals strongly diverging below; ocellars extremely weak or absent. Occiput white pollinose and with dull yellowish-tinged pile; a partial double row of black hairs behind the occipital cilia on the upper half of the head; cheeks whitish pilose, almost the upper half with black hairs. Parafacials with a row of fine hairs below and irregular hairs above on the sides. Palpi black. Antennae elongate, black, the third segment twice as long as the second. Vibrissae situated slightly above the oral margin.

Thorax cinereous pollinose, sometimes very strongly tinged with cinnamon brown, the black mesonotal stripes shining and rather broad, the median one extending almost to the apex of the scutellum. Acrosticals, 0–1; two or three pairs of strong posterior dorsocentrals, the others short and weak; sternopleurals, 1–1–1; three pairs of marginal scutellars, the apical pair weak and cruciate.

Legs black; posterior femora and tibiae villous beneath, the middle femora with long hair below.

Wings cinereous hyaline. Squamae whitish, the disc of the lower lobe usually tinged with brown. Halteres reddish yellow.

Abdomen with cinereous pollen, strongly tessellate, second segment without median marginals. Fifth sternite with the arms strongly divergent, their inner edges with short, rather fine hair. Lateral view of genitalia as in figure 5.

TYPES.—Holotype, male, and seven male paratypes, Stanleyville, Congo, March, April, 1915 (Lang and Chapin), taken from *Bembex*.

Sarcophaga falciforceps Villeneuve

Figure 25

VILLENEUVE, 1929, Rev. zool.-bot. Afr., XVII, p. 250 (f.).

Two males, Stanleyville, Congo, August 8, 1909, and March, 1915; male, Garamba, Congo, July 1912 (Lang and Chapin), one taken from *Bembex*; four males, Burunga, Congo (J. Bequaert); male, Mazoe, Southern Rhodesia, June 11, 1927 (A. Cuthbertson), at *Poinsettia*.

This species was originally described from the Belgian Congo. It may be readily recognized by the structure of the male genitalia, shown in figure 25.

Sarcophaga haemorrhoidalis Fallén

Figure 12

Musca haemorrhoidalis FALLÉN, 1816, 'Vet. Acad. Handl.,' p. 236.

Eight males and two females, Stanleyville, Congo, August 8, 20, 1909, and March and April, 1915; male, Faradje, Congo, November, 1912; male, Garamba, July, 1912; male, Boma, Congo, June 17, 1915 (Lang and Chapin), four taken from *Bembex;* male, Lukolela, left Bank Congo River, Congo, August 14, 1930 (J. P. Chapin); male Irebu, Congo, December 17, 1926 (J. Bequaert); two males, Monrovia, Liberia; male, Memeh Town, Liberia, August 29, 1926; two males, Gbanga,

Liberia, September, 1926; male, Kakatown, Liberia, August 20, 1926; male, Du River Camp No. 3, Liberia (J. Bequaert); male, Lomagundi, Southern Rhodesia, July, 1932 (A. Cuthbertson); male, Nieuwoudtville, Cape Province, South Africa, November 19 (Alice Mackie).

This common and widely distributed species apparently occurs over the greater part of Africa.

Sarcophaga arno, new species

Figure 6

Posterior tibiae villous; genital segments reddish; second abdominal segment without median marginals. Length, 12.5 to 15 mm.

MALE.—Head white pollinose, the face and front more or less strongly brassy yellow. Front slightly more than three-sevenths as wide as either eye; frontals strongly diverging below; ocellars short and weak. Occipital pile yellowish; two or three rows of black hairs behind the occipital cilia; cheeks with black hair except behind. Parafacials with a row of hairs near the eyes and one or two irregular rows on the upper two-thirds. Palpi black. Antennae moderately long, the third segment more than twice as long as the second. Vibrissae situated a little above the oral margin.

Thorax cinereous pollinose, the black mesonotal vittae moderately wide and shining. Prescutellar acrosticals very weak or absent; two pairs of strong dorsocentrals, the others weak; sternopleurals, 1–1–1; three pairs of marginal scutellars. Propleura bare.

Legs black, with cinereous pollen; tibiae more or less brownish, the posterior pair villous below; middle femora with rather abundant long, erect hair on the basal two-fifths of the ventral surface, the posterior pair with erect shorter hair below.

Wings cinereous hyaline, the veins brown. Squamae white, the disc of the lower lobe with a brown spot. Halteres reddish yellow, the base of the knob more or less brownish.

Abdomen cinereous pollinose, strongly tessellate; second segment without median marginals. The arms of the fifth sternite leave a rather orbicular area, broadly open at the apex, the inner edges with numerous short, coarse hairs. Genital segments reddish, the first segment with two or three fine apical bristles. Lateral view of genitalia as in figure 6.

TYPES.—Holotype, ma'e, Betala, Liberia, October 13 (J. Bequaert). Paratypes: three males, Stanleyville, Congo, March, April 5, 1915 (Lang and Chapin), taken from *Bembex*.

Sarcophaga burungae, new species

Figures 8 and 9

Propleura bare; second abdominal segment without dorsal bristles; acrosticals absent. Length, 12 mm.

MALE.—Head white pollinose, the front darker and rather dull, in most lights with a black spot extending from the base of the antennae to the orbits. Front more than half as wide as either eye, the sides parallel on the upper half; frontals strongly diverging below; ocellars moderately long and fine. Occiput white pilose, with at

most two partial rows of black hairs behind the occipital cilia; cheeks three-eighths as wide as the eye-height, white-haired on the posterior half except above. Parafacials with a row of black hairs, all about equally strong. Vibrissae situated almost level with the oral margin. Palpi and antennae black, the antennae of moderate length, the third segment a little more than twice as long as the second.

Thorax cinereous-white pollinose, moderately hairy, the black mesonotal vittae rather wide; no acrosticals; two pairs of strong postsutural dorsocentrals and two or three weak pairs; three pairs of marginal scutellars, the apical pair weak and decussate; sternopleurals, 1–1–1.

Legs black, with cinereous pollen; middle and posterior femora with thick hair below, the posterior tibiae villous on the lower surface.

Wings cinereous hyaline. Squamae white, the disc of the lower lobe brown. Halteres with yellow knob, the stem mostly brownish red.

Abdomen cinereous-white pollinose, strongly tessellate; second segment without median marginals, the third with a weak pair. Fifth sternite with a deep U-shaped incision, the inner edges with numerous bristly hairs or fine bristles. First genital segment brown, with two or three pairs of apical bristles; second segment reddish. Lateral view of genitalia as in figure 9.

HOLOTYPE.—Male, Burunga, Congo (J. Bequaert).

Sarcophaga beckeri Villeneuve

Figures 14 and 15

VILLENEUVE, 1908, Mitt. Zool. Mus. Berlin, IV, p. 122 (f.).

Ten males, Stanleyville, Congo, March, 1915; seventeen males, Stanleyville, April, 2, 4, 5, 7, 8, 10, 11, 12, 16, 22, and 27, 1915 (Lang and Chapin), mostly taken from *Bembex;* male, Eden, Camaroons (J. A. Reis).

This species was originally described from the Canary Islands and, although I have no specimens from there, the identification is probably correct, since Villeneuve figured the genitalia.

Sarcophaga garbo, new species

Figure 10

Posterior tibiae villous; propleura bare; second abdominal segment without median marginals. Length, 13 to 14 mm.

MALE.—Head whitish pollinose, the face and front strongly tinged with brassy yellow. Front three-sevenths as wide as either eye; frontals gently diverging opposite the antennae; ocellars rather short and fine. Occipital pile yellow; black hair behind the occipital cilia, the yellow pile encroaching on to the black-haired cheeks. Parafacials with a row of fine hairs near the eyes and scattered hairs above. Palpi black. Antennae black, long, the third segment obviously more than twice as long as the second. Vibrissae situated practically level with the oral margin.

Thorax cinereous pollinose, sometimes with strong yellowish or cinereous brown tinge dorsally; black mesonotal vittae wide and shining. Acrosticals, 0–1; two pairs of strong postsutural dorsocentrals, the others much shorter but moderately strong; sternopleurals, 1–1–1; three or four pairs of marginal scutellars.

Legs black, with cinereous pollen; posterior tibiae with villous hair anteroventrally; middle femora villous beneath to beyond the middle where the hair is very long and ends abruptly, the posterior femora not densely haired below.

Wings cinereous hyaline, the veins more or less distinctly bordered with pale brownish. Squamae tinged with brown, with white border and base, rarely mostly white. Halteres reddish yellow.

Abdomen cinereous pollinose, strongly tessellate; apex of fourth segment more or less reddish; second segment without median marginals. Arms of fifth sternite diverging V-like, the inner edges with short, bristles. Lateral view of genitalia as in figure 10.

TYPES.—Holotype, male, Stanleyville, Congo, April 7, 1915. Paratypes: three males, Stanleyville, March, 1915 (Lang and Chapin), taken from *Bembex;* male, Reppo's Town, Liberia, September (J. Bequaert).

Sarcophaga inzi, new species

Figure 19

Propleura bare; posterior tibiae villous; second abdominal segment without dorsal bristles. Length, 9 to 12 mm.

MALE.—Head white pollinose, the parafrontals with brassy yellow tinge. Front half as wide as either eye; frontal rows strongly diverging below; ocellars of medium length. Occiput and posterior half of the cheeks with white, yellowish-tinged hair, without black hairs behind the occipital cilia. Parafacials with a row of fine hairs ending in one or two coarse ones below. Vibrissae distinctly approximated, situated very slightly above the oral margin. Palpi brown. Antennae reddish brown, the third segment a little more than twice as long as the second.

Thorax cinereous pollinose, the black mesonotal vittae of medium width. Prescutellar acrosticals long and strong, the others wholly absent; two pairs of strong dorsocentrals, the others scarcely or not at all differentiated; sternopleurals, 1–1–1; three pairs of marginal scutellars, the apical pair weak and decussate.

Legs black, the femora with cinereous pollen; tibiae reddish or brownish, the posterior pair villous beneath.

Wings cinereous hyaline. Squamae white, the disc with a transverse brown spot extending to the outer edge. Halteres with brown knob.

Abdomen cinereous pollinose, wholly black; first genital segment reddish brown, the second reddish. Lobes of fifth sternite with rather parallel sides and perpendicular on basal half, convex apically, the inner edge with erect coarse spines, the apex of the lobe with some long hairs and a strong bristle. Lateral view of genitalia as in figure 19.

TYPES.—Holotype, male, Stanleyville, Congo, April 7, 1915; seven males, paratypes, Stanleyville, September, 1912, and March, 1915 (Lang and Chapin), mostly taken from *Bembex.*

Sarcophaga mulaba, new species

Figure 16

Propleura bare; posterior tibiae villous below; fourth abdominal segment reddish on apical third or more. Length, 10 to 13 mm.

MALE.—Head white pollinose, the parafrontals with brassy yellow tinge. Front

slightly more than half as wide as either eye, the frontal rows strongly diverging below; ocellars rather short. Occiput with fine yellowish white hair, with a row of black hairs behind occipital cilia on the upper fourth. Cheeks pale-haired on the posterior half. Parafacials with a row of short black hairs. Vibrissae situated level with the oral margin. Palpi brown with the basal half reddish. Antennae short, the third segment barely twice as long as the second.

Thorax cinereous pollinose, the black mesonotal vittae narrow. Prescutellar acrosticals fine, the others absent; two pairs of strong postsutural dorsocentrals, the others poorly differentiated; three sternopleurals, the second situated near the first; scutellum with three pairs of marginals, the apical pair weak and decussate.

Legs black, the tibiae reddish or reddish brown, the femora with cinereous pollen; posterior tibiae with long hairs on both lower edges.

Wings cinereous hyaline. Squamae white, usually with a small brown spot on the disc. Halteres yellow, the base of the knob reddish brown.

Abdomen with whitish pollen, strongly tessellate; second segment without dorsal bristles. Lobes of fifth sternite moderately diverging, the inner edges densely clothed with short, coarse setulae. Genital segments orange, without bristles. Lateral view of genitalia as in figure 16.

FEMALE.—Front about two-thirds as wide as either eye; palpi very large and swollen; no apical scutellars; usually four sternopleurals in a straight line; tibiae without long hairs; first genital segment broadly arched, the marginal bristles on the sides preceded by two irregular rows of hairs.

TYPES.—Holotype, male, and allotype, female, Stanleyville, Congo, March, 1915; five males and three females, paratypes, Stanleyville, March and April, 1915 (Lang and Chapin), all taken from *Bembex*.

The name "mulaba" is Kingwana for "stripe." The female may be readily recognized by the large, swollen palpi and partly red fourth abdominal segment. In the male the palpi are large but are not so conspicuously swollen.

Sarcophaga musitali, new species

Figure 40

Propleura bare; posterior tibiae villous; fourth abdominal segment broadly red apically. Length, 9.5 to 11 mm.

MALE.—Head white pollinose, the parafrontals usually with brassy yellow tinge. Front one-third as wide as either eye, the frontal rows moderately diverging below; ocellars moderately strong. Occiput white-haired, with a row of coarse black hairs behind the occipital cilia. Cheeks white-haired on the posterior half. Parafacials with a row of fine black hairs ending in two or three coarse ones below. Vibrissae situated level with the oral margin. Palpi brown, the base sometimes reddish. Antennae moderately short, the third segment twice as long as the second.

Thorax white pollinose, the black mesonotal vittae rather narrow. Prescutellar acrosticals long and fine, the others absent; two pairs of strong postsutural dorsocentrals, the others very weak; three evenly spaced sternopleurals; scutellum with three pairs of marginals, the apical pair weak and decussate.

Legs black, the tibiae reddish or reddish brown, the posterior pair with long hairs on both ventral edges but they are less numerous and shorter in front.

Wings cinereous hyaline. Squamae white, with the disc more or less pale brown. Halteres reddish yellow, the base of the knob brownish.

Abdomen with white pollen, strongly tessellate, the second segment without dorsal bristles. Lobes of fifth sternite diverging V-like, the inner edges armed with long, rather fine setulae or short, coarse hairs. Broad apex of fourth abdominal segment and the genital segments orange, the latter without bristles. Lateral view of male genitalia as in figure 40.

FEMALE.—Front a little narrower than either eye, the sides gently diverging from the vertex to the antennae; parafrontals white pollinose; no apical scutellars; tibiae without long hairs. Genital segments shining red, the first broadly arched above, bare except for the bristles along the sides of the genital opening.

TYPES.—Holotype, male, allotype, female, and two male paratypes, Stanleyville, Congo, March, 1915 (Lang and Chapin), taken from *Bembex*, and one paratype, male, Eden, Cameroon (J. A. Reis).

The name of the species is the Kingwana word meaning "a line."

Sarcophaga afra, new species

Figure 2

Propleura haired; hind tibiae villous posteriorly; mesonotal vittae wide. Length, 10 to 15 mm.

MALE.—Head pale yellowish pollinose, the occiput whitish. Front three-eighths as wide as either eye; frontals moderately diverging below; ocellars weak. Pile of the occiput pale yellowish; about two rows of black hairs behind the occipital cilia; cheeks black-haired, with pale hair behind. Parafacials with two converging rows of fine hairs above and a single row of stout hairs below. Palpi black. Antennae brown, elongate, the third segment almost three times as long as the second. Vibrissae situated a little above the oral margin.

Thorax cinereous pollinose, the black mesonotal vittae broad. Prescutellar acrosticals long; two pairs of long dorsocentrals, the others short; sternopleurals, 1–1, or 1–1–1; three pairs of marginal scutellars.

Legs black; posterior tibiae villous posteriorly; middle and hind femora with abundant hair below.

Wings cinereous hyaline. Squamae white, the disc slightly tinged with brown. Halteres dull reddish, the base of the knob somewhat darkened.

Abdomen cinereous pollinose, strongly tessellate; second segment without median marginals. Arms of fifth sternite strongly diverging beyond the basal third, their inner edges with abundant, rather short, bristly hair. Lateral view of genitalia as in figure 2.

FEMALE.—Front seven-ninths as wide as either eye, the sides gently widening from the vertex forward; tibiae without long hairs; scutellum without apical bristles; genital segments reddish.

TYPES.—Holotype, male, allotype, female, Stanleyville, Congo, March, 1915. Paratypes: four males, six females, Stanleyville, March, 1915, male and female, April, 1915, male, May, 1915, and female, July 7, 1915 (Lang and Chapin), mostly taken from *Bembex*.

Sarcophaga momba, new species

Figure 26

Propleura haired; wings tinged with brown; posterior tibiae with long hairs. Length, 9 to 12.5 mm.

MALE.—Head white pollinose, the face and front with yellow tinge. Front one-third as wide as either eye; frontals strongly diverging opposite the base of the antennae; ocellars short. Occiput with pale yellowish pile, several rows of black hairs behind the occipital cilia. Cheeks wholly black-haired; parafacials with a row of hair near the orbits and three or four strong bristly hairs below. Vibrissae situated almost on a level with the oral margin. Palpi and antennae brown, the third antennal segment decidedly more than twice as long as the second.

Thorax cinereous pollinose, sometimes with yellowish tinge, the black vittae moderately broad. Prescutellar acrosticals absent; two pairs of strong postsutural dorsocentrals and sometimes one or two weaker pairs; three pairs of marginal scutellars, the apical pair weaker and decussate.

Legs black, the femora with cinereous pollen; tibiae more or less dark reddish; posterior tibiae with long hairs on both lower edges.

Wings cinereous hyaline, broadly tinged with brown along the veins. Squamae white, usually with a small brownish area on the disc. Knob of halteres brown.

Abdomen cinereous pollinose, tessellate. Fifth sternite not divided, gently produced and densely short spinose in the middle. Second genital segment with from four to eight strong bristles apically. Lateral view of male genitalia as in figure 26.

FEMALE.—A single female agrees with the males but lacks long hair on the tibiae and the genital segments are dull reddish and mostly concealed. The front is about half as wide as one eye and gradually widens from the vertex forward.

TYPES.—Holotype, male, allotype, female, and male paratype, Stanleyville, March, 1915, and male paratype, Stanleyville, April 7, 1915 (Lang and Chapin), all taken from *Bembex*.

Sarcophaga alina, new species

Figure 18

Propleura haired; acrosticals absent; posterior tibiae with long hairs. Length, 11 to 12.5 mm.

MALE.—Head cinereous-white pollinose, with brassy tinge. Front three-eighths as wide as either eye; frontals gently diverging below; ocellars absent. Occiput and cheeks black-haired, the former with dull yellowish pile below the neck. Parafacials with an irregular row of short hairs and two or three fine bristles below. Palpi black. Antennae long, the third segment almost four times as long as the second. Vibrissae situated level with the oral margin.

Thorax cinereous pollinose, the black mesonotal vittae of moderate width. Acrosticals wholly absent, the dorsocentrals weak with the exception of the posterior pair. Three pairs of marginal scutellars, the apical pair decussate, the discals situated close to the margin and slightly weaker than the apicals. Three sternopleurals in an almost straight line.

Legs black, the femora with cinereous pollen; posterior tibiae with long hairs on both ventral surfaces.

Wings cinereous hyaline, more or less tinged with brown along the veins and

sometimes quite brownish. Squamae white, the lower lobe more or less tinged with brown on the apical half. Halteres reddish yellow, the base of the knob brownish.

Abdomen cinereous pollinose, moderately tessellate; second segment with a pair of strong median marginals. Fifth sternite not divided but with a shallow angular median notch, the apex with dense short spines except laterally. Genital segments reddish, the first with three or four pairs of apical bristles. Lateral view of genitalia as in figure 18.

FEMALE.—Agrees with the male, but the tibiae lack long hairs. Genitalia reddish, the first segment pale pollinose and with one or two lateral bristles apically.

TYPES.—Holotype, male, allotype, female, Stanleyville, Congo, March, 1915. Paratypes: five males and one female, Stanleyville, March and April, 1915 (Lang and Chapin).

Sarcophaga furcadorsalis Rohdendorf

Figure 24

ROHDENDORF, 1931, Ann. Mag. Nat. Hist., VIII, p. 350 (f.).

Two males and four females, Stanleyville, March, 1915 (Lang and Chapin), taken from *Bembex*.

Lateral view of the male genitalia is shown in figure 24.

Sarcophaga kisangani, new species

Figure 20

Propleura haired; second abdominal segment without dorsal bristles; posterior tibiae villous. Length, 11 mm.

MALE.—Head white pollinose, the parafacials and front with brassy-yellow tinge. Front almost half as wide as either eye; frontal rows diverging below; ocellars short and rather fine. Occiput with dull yellowish pile; three rows of black hairs behind the occipital cilia, the yellow pile encroaching on the cheeks below. Parafacials with a row of hairs and two or three bristles below. Vibrissae situated level with the oral margin. Palpi black. Antennae black, the third segment missing.

Thorax cinereous pollinose, the black mesonotal vittae of medium width. Acrosticals wholly absent; two pairs of strong postsutural dorsocentrals and two or three pairs of weak ones; three pairs of marginal scutellars, the apical pair very weak and decussate; three strong, evenly spaced sternopleurals.

Legs black, with cinereous pollen, the posterior four tibiae largely castaneous, the posterior pair villous below.

Wings cinereous hyaline, the veins weakly bordered with brown. Squamae whitish, the disc of the lower lobe tinged with yellow, the upper lobe with yellow rim.

Abdomen with cinereous pollen; second segment without median marginals, the third with four pairs across the apex. Fifth sternite with the base produced downward, the arms strongly diverging, clothed with short, fine hairs on the inner edges. Genitalia small, the first segment concealed, the second dark reddish. Lateral view of genitalia as in figure 20.

HOLOTYPE.—Male, Stanleyville, April 11, 1915 (Lang and Chapin), taken from *Bembex*.

The Kingwana name for Stanleyville has been used for this species. The literal translation is "on the island."

Sarcophaga bulamatadi, new species

Figure 41

Propleura haired; posterior tibiae villous; second abdominal segment without dorsal bristles. Length, 13.5 mm.

MALE.—Head white pollinose, the face and front with strong brassy tinge. Front five-twelfths as wide as either eye, widening anteriorly from the posterior third; frontal rows moderately diverging below; ocellars weak. Occiput with black hair, the pile below the neck, and surrounding it, pale yellowish; cheeks with rather long black hair, especially below. Parafacials with a row of four or five hairs and two or three weak bristles below. Vibrissae situated level with the oral margin. Palpi black. Antennae black or brown, the third segment missing.

Thorax cinereous pollinose, the black mesonotal vittae of medium width. No acrosticals; two pairs of strong postsutural dorsocentrals, the others weak; three pairs of marginal scutellars, the apical pair weak and decussate. Propleura haired in the middle.

Legs black, with cinereous pollen, the posterior four tibiae more or less brown or castaneous; posterior tibiae with long hairs on both lower edges.

Wings cinereous hyaline, the veins more or less bordered with brown. Squamae white, the disc tinged with brown. Knob of halteres mostly brown.

Abdomen with cinereous pollen, strongly tessellate; second segment without dorsal bristles, the third with a pair of long median marginals. Fifth sternite rather strongly produced downward on the basal half, the arms diverging V-shaped and with very short, fine hairs on their inner edges. First genital segment black, the second reddish. Lateral view of genitalia as in figure 41.

HOLOTYPE.—Male, Stanleyville, Congo, April 7, 1915 (Lang and Chapin), taken from *Bembex*.

I have applied to this species the native name for Stanley, the great African explorer.

Sarcophaga surda, new species

Figure 13

Propleura haired; posterior tibiae villous; prescutellar acrosticals weak or absent. Length, 12 to 13 mm.

MALE.—Head white pollinose, sometimes with brassy yellow tinge. Front three-sevenths as wide as either eye; ocellars short and fine; frontals not strongly divergent below. Occiput with black hair, the pile below the neck pale yellowish. Parafacials with a row of hairs and three or four bristles below. Palpi black. Antennae brown, the third segment less than three times as long as the second. Vibrissae situated level with the oral margin.

Thorax cinereous pollinose, the black mesonotal vittae moderately wide. Two pairs of strong postsutural dorsocentrals and two or three weak pairs; three evenly spaced sternopleurals; three pairs of marginal scutellars, the apical pair weaker and decussate.

Legs black, the femora with cinereous pollen; tibiae rather castaneous, the posterior pair villous beneath.

Wings cinereous hyaline, at most weakly tinged with brown along the veins. Squamae white, the disc of the lower lobe more or less pale brown. Halteres with brown knobs.

Abdomen cinereous pollinose, strongly tessellate; second segment without median marginals. Fifth sternite with the lobes moderately separated, their inner edges almost parallel and rather triangularly produced, the apices with rather dense bristles. Genitalia reddish, the basal segment sometimes with brown tinge, without bristles. Lateral view of genitalia as in figure 13.

FEMALE.—Apical scutellars absent; tibiae without long hair. Genital segments reddish, the first segment not creased above and with rather strong apical bristles.

TYPES.—Holotype, male, allotype, female, Stanleyville, Congo, March, 1915; three males and one female, paratypes, Stanleyville, March and April, 1915 (Lang and Chapin), taken from *Bembex*.

Sarcophaga inducta, new species

Figure 12

Propleura haired; posterior tibiae with long hair below; second abdominal segment without median marginals. Length, 12.5 mm.

MALE.—Head white pollinose. Front a little less than half as wide as either eye; frontal bristles moderately diverging opposite the base of the antennae; ocellars rather weak. Occiput with black hair, the pile below the neck pale yellowish. Parafacials with a row of short hairs and three or four fine bristles below. Palpi black. Antennae brown, long, the third segment somewhat more than twice as long as the second. Vibrissae situated on a level with the oral margin.

Thorax cinereous pollinose, the median black mesonotal vitta rather narrow. Prescutellar pair of acrostical bristles well developed, the others not clearly differentiated; two pairs of strong postsutural dorsocentrals and two or three weak ones. Sternopleurals in a straight line, evenly spaced. Three pairs of marginal scutellars and a pair of weak preapicals.

Legs black, the femora with cinereous pollen; tibiae rather brownish, the posterior pair with long hair on either lower edge.

Wings light brownish, the broad apical and posterior borders cinereous hyaline. Squamae white, with yellow border. Halteres with brown knobs.

Abdomen cinereous pollinose, strongly tessellate, the second segment without median marginals. Fifth sternite divided on the apical half, the base somewhat keeled, the arms rather widely separated, the apices oblique and with numerous, fine, short bristles. Basal genital segment brown, cinereous pollinose, bearing two or three pairs of fine apical bristles; second segment orange. Lateral view of genitalia as in figure 12.

HOLOTYPE.—Male, Stanleyville, Congo, March, 1915 (Lang and Chapin), taken from *Bembex*.

Poecilometopa Villeneuve

VILLENEUVE, 1913, Bull. Soc. Ent. France, p. 348.

This name was proposed by Villeneuve for the reception of *Angiometopa dimidiatipes*, described on page 347 of the reference cited. All the species thus far included have at least one strong blackish spot on the wing and most of them have three or four. Malloch would retain the species in *Sarcophaga*, but there are apparently sufficiently good characters for their segregation, and I have followed Villeneuve, pending a thorough revision of the genera in the family.

Poecilometopa notatipennis Austen

Figure 21

Sarcophaga notatipennis AUSTEN, 1909, Trans. Zool. Soc. London, p. 98.

?*Sarcophaga octomaculata* JAENNICKE, 1867, Abhandl. Senkenb. Gesellsch., VI, p. 379.

Austen described and figured the adult of this species from Ruwenzori but, since the male genitalia were not figured, the identification of the species must remain in doubt. Jaennecke described only the female, and the female before me differs from his description only in having the mesonotal vittae more distinct.

Two males and one female, Burunga, Congo (J. Bequaert).

Poecilometopa punctipennis Malloch

Sarcophaga punctipennis MALLOCH, 1928, Ann. Mag. Nat. Hist., II, p. 325.

It seems likely that this name applies to *notatipennis* Austen.

Poecilometopa congensis, new species

Figure 33

Propleura haired in the middle; wings each with three large and one small, dark brown spots; genitalia orange. Length, 10 mm.

MALE.—Head silvery pollinose, the parafacials and parafrontals changing in different views. Front a little more than half as wide as either eye; frontal rows strongly diverging below; ocellars long and strong; parafrontals very narrow above, the frontal vitta thinly dusted with whitish pollen. Occiput black-haired, only a few fine white hairs below the neck. Parafacials wide, with four bristles and several long hairs below and a few short hairs above. Vibrissae situated level with the oral margin. Palpi black. Antennae black, the third segment hardly one-half longer than the second.

Thorax blue-black, with rather thin white pollen, the black vittae wide and brown pollinose. No acrosticals; two pairs of strong postsutural dorsocentrals and three scarcely differentiated pairs, the presuturals with only the posterior pair well differentiated but short; three pairs of marginal scutellars, the apical pair weak and decussate; sternopleurals three, evenly spaced and strong. Irregular swelling on the pleura in front of the base of the wings orange.

Legs black, with thin cinereous pollen, the femora with long, rather sparse hair below; posterior tibiae with long hairs on both lower edges.

Wings cinereous hyaline, with blackish-brown spots on the anterior and posterior cross-veins, and on the bend of the fourth vein and a less distinct brown spot on the origin of the second vein. Squamae white, the disc of the lower lobe brown. Halteres brownish red, the knob yellow.

Abdomen evenly and thinly gray pollinose, with a median vitta and lateral black spots on the second to fourth segments, the second segment without dorsal bristles. Lobes of the fifth sternite very narrowly separated, their margins with short, dense, appressed spines, the apices with longer, fine bristles. First genital segment shining black, the second orange; posterior forceps black, the outer pair reddish. Lateral view of genitalia as in figure 33.

HOLOTYPE.—Male, Burunga, Congo (J. Bequaert).

Poecilometopa spilogaster Wiedemann

Figure 7

Sarcophaga spilogaster WIEDEMANN, 1830, 'Ausser. Zweifl.,' II, p. 362.

Like the preceding species, *spilogaster* has the second genital segment red and the first shining black, but the color is yellowish cinereous, the dark mesonotal vittae, in the female, are almost obsolete, and the general color is quite dull. Lateral view of male genitalia is shown in figure 7.

Male, Inyanga, Southern Rhodesia, November, 1933 (A. Cuthbertson); two females, South Africa, January, 1925.

Helicobia alerta, new species

Figure 39

Propleura bare; second abdominal segment with a pair of long median marginals; posterior tibiae with a few long hairs. Length, 6 mm.

MALE.—Head cinereous-yellow pollinose, black-haired, the occiput with yellowish pile below the neck. Front three-eighths as wide as either eye; frontal rows strongly diverging below; ocellars long. Vibrissae situated level with the oral margin. Palpi and antennae brown, the third antennal segment one-half longer than the second.

Thorax with cinereous-yellow pollen, the black mesonotal vittae of moderate width. Prescutellar acrosticals long, the others not clearly differentiated; three pairs of strong postsutural dorsocentrals; three strong, evenly spaced sternopleurals; scutellum with three pairs of marginals, the apical pair weak and decussate.

Legs black, with cinereous pollen; tibiae more or less brownish red, the posterior pair with a few long bristly hairs on the anteroventral surface and more numerous ones posteroventrally.

Wings cinereous hyaline. Squamae white. Halteres yellow.

Abdomen yellowish-cinereous pollinose, weakly tesselate, the brown median vitta distinct; second segment with a pair of strong median marginals. Lobes of fifth sternite strongly diverging, without dense hairs or bristles. Genitalia reddish yellow, the first segment more or less brownish. Lateral view of genitalia as in figure 39.

HOLOTYPE.—Male, Umdazani, Cape Province, May 29, 1924 (H. K. Munro).

The specimen is teneral and the colors cannot be positively determined.

Helicobia selene, new species

Figure 36

Propleura bare; three postsutural dorsocentrals; second abdominal segment with a pair of large median marginals. Length, 10 mm.

MALE.—Head white pollinose, the cheeks and occiput with yellow tinge. Front half as wide as either eye, the frontal rows strongly diverging below; ocellar bristles moderately long. Occiput with coarse, black hair, yellow pilose below the neck. Cheeks with coarse black hair. Parafacials with a few fine hairs above and two or three weak bristles below. Vibrissae situated almost level with the oral margin. Palpi black. Antennae brown, the third segment decidedly less than twice as long as the second.

Thorax with cinereous-yellow pollen, the mesonotum sometimes with a brownish tinge, the black vittae rather narrow. Only the prescutellar pair of acrostical bristles clearly differentiated, although the presuturals are slightly stronger than the surrounding hairs. Three pairs of strong postsutural dorsocentrals; scutellum with three pairs of marginals, the apical pair weaker than the others and decussate; three evenly spaced, strong sternopleurals.

Legs black, with cinereous pollen, the tibiae brownish or reddish, the posterior pair villous beneath.

Wings cinereous hyaline, the veins blackish. Squamae white, with luteous border. Halteres yellow.

Abdomen with yellowish-cinereous pollen, strongly tessellate. Lobes of fifth sternite strongly diverging except at the base, armed on the inner edge with numerous short bristles. Genital segments reddish, the first with a dark preapical spot above and with a row of weak apical bristles. Lateral view of genitalia as in figure 36.

TYPES.—Holotype, male, East London, South Africa, February 23, 1924; male, paratype, East London, February 22, 1925 (H. K. Munro). The holotype has been returned to Mr. Munro.

Helicobia monroi, new species

Figure 23

Propleura haired; second abdominal segment without long bristles; posterior tibiae with only short hair. Length, 6 to 7 mm.

MALE.—Head silvery-white pollinose, in some views with dark areas. Front two-fifths as wide as either eye; frontals strongly diverging below; ocellars rather short. Occiput with coarse black hair, below the neck with white pile. Cheeks wholly black-haired. Parafacials with a row of hairs ending in two or three weak bristles below. Vibrissae situated level with the oral margin. Palpi and antennae brown, the third antennal segment a little more than twice as long as the second.

Thorax cinereous pollinose, the mesonotal vittae rather narrow. Prescutellar acrosticals weak, the others absent; three pairs of strong postsutural dorsocentrals and three evenly spaced sternopleurals; scutellum with three pairs of marginal bristles, the apical pair weak and decussate.

Legs black, with cinereous pollen; tibiae brown, without long hairs.

Wings cinereous hyaline. Squamae white. Halteres reddish, the base of the knob darkened.

Abdomen cinereous pollinose, strongly tessellate, the second segment without dorsal bristles. Arms of the fifth sternite diverging V-like, the inner edges with short, stout bristly hairs. First genital segment brown, the second orange. Lateral view of genitalia as in figure 23.

FEMALE.—Agrees with the male but there are often fewer hairs on the middle of the propleura. The genital segments are shining orange, the first sharply arched above and with black bristles on the sides, the disc bare.

TYPES.—Holotype, male, Salisbury, Southern Rhodesia, May, 1929 (A. Cuthbertson); allotype, female, Pretoria, South Africa, September 2, 1913 (H. K. Munro). Paratypes: male, Salisbury, May, 1929 (Cuthbertson); male, New Hanover, Natal, November 24, 1913 (C. B. Hardenberg); female, Port Elizabeth, Natal, February 24, 1919 (H. K. Munro).

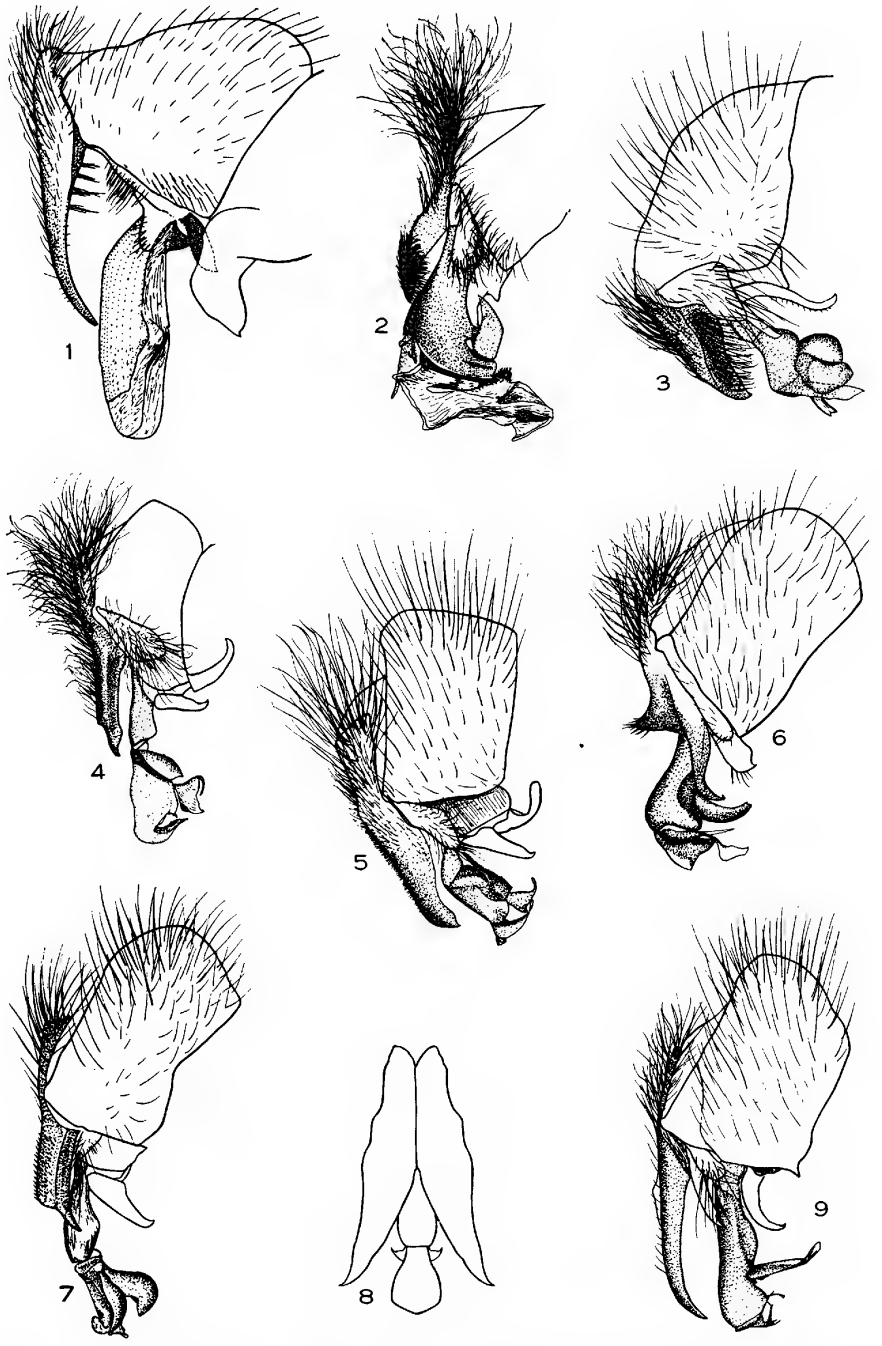

Fig. 1. *Wohlfahrtia euvittata* Villeneuve.
Fig. 2. *Sarcophaga afra*, new species.
Fig. 3. *Agria ? condona*, new species.
Fig. 4. *Sarcophaga dura*, new species.
Fig. 5. *Sarcophaga langi*, new species.
Fig. 6. *Sarcophaga aron*, new species.
Fig. 7. *Poecilometopa spilogaster* Wiedemann.
Fig. 8. *Sarcophaga burungae*, new species.
Fig. 9. *Sarcophaga burungae*, new species.

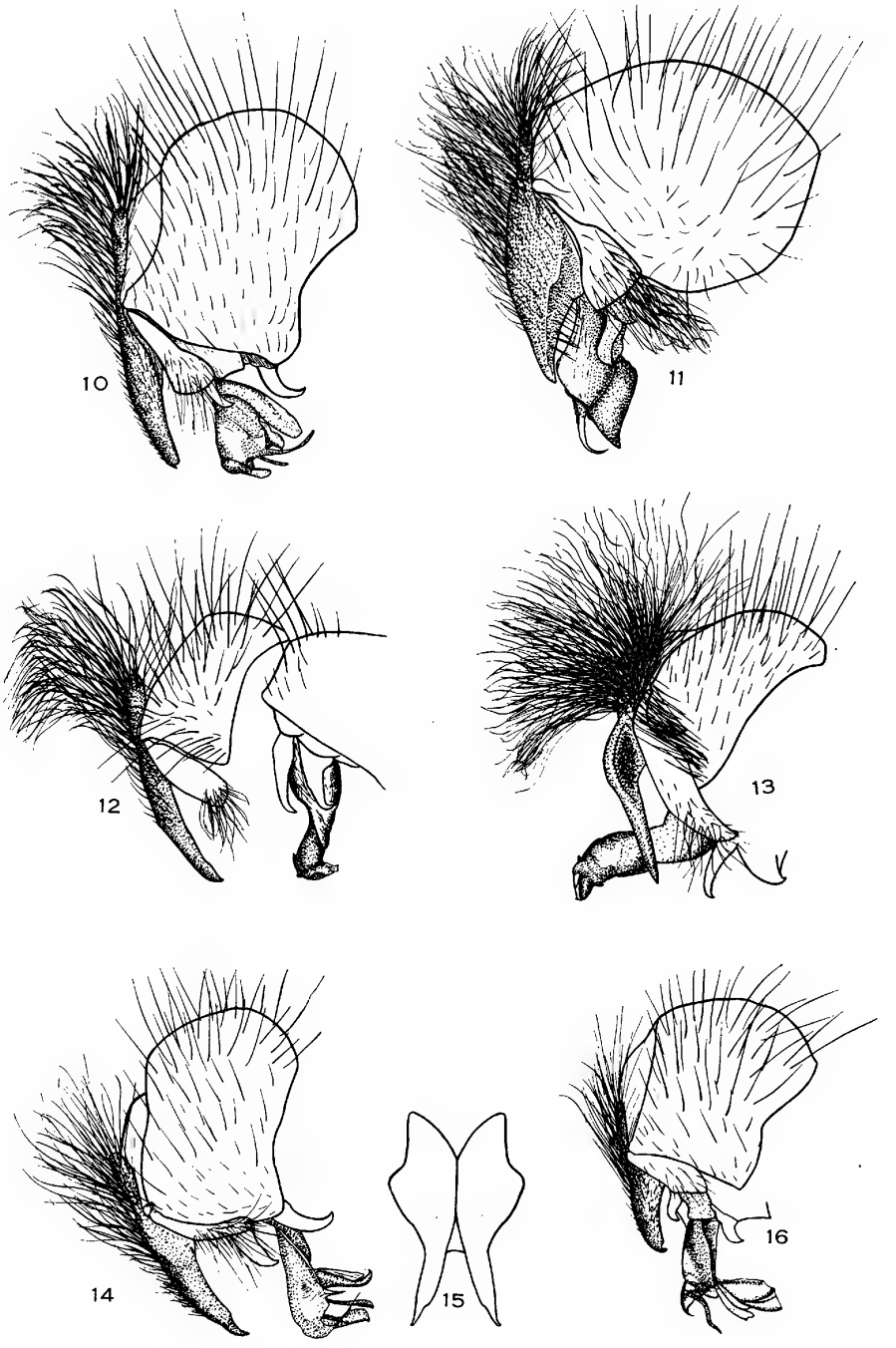

Fig. 10. *Sarcophaga ga-bo*, new species.
Fig. 11. *Agria? munroi* Curran.
Fig. 12. *Sarcophaga inducta*, new species.
Fig. 13. *Sarcophaga surda*, new species.
Fig. 14. *Sarcophaga beckeri* Villeneuve.
Fig. 15. *Sarcophaga beckeri* Villeneuve.
Fig. 16. *Sarcophaga mulaba*, new species.

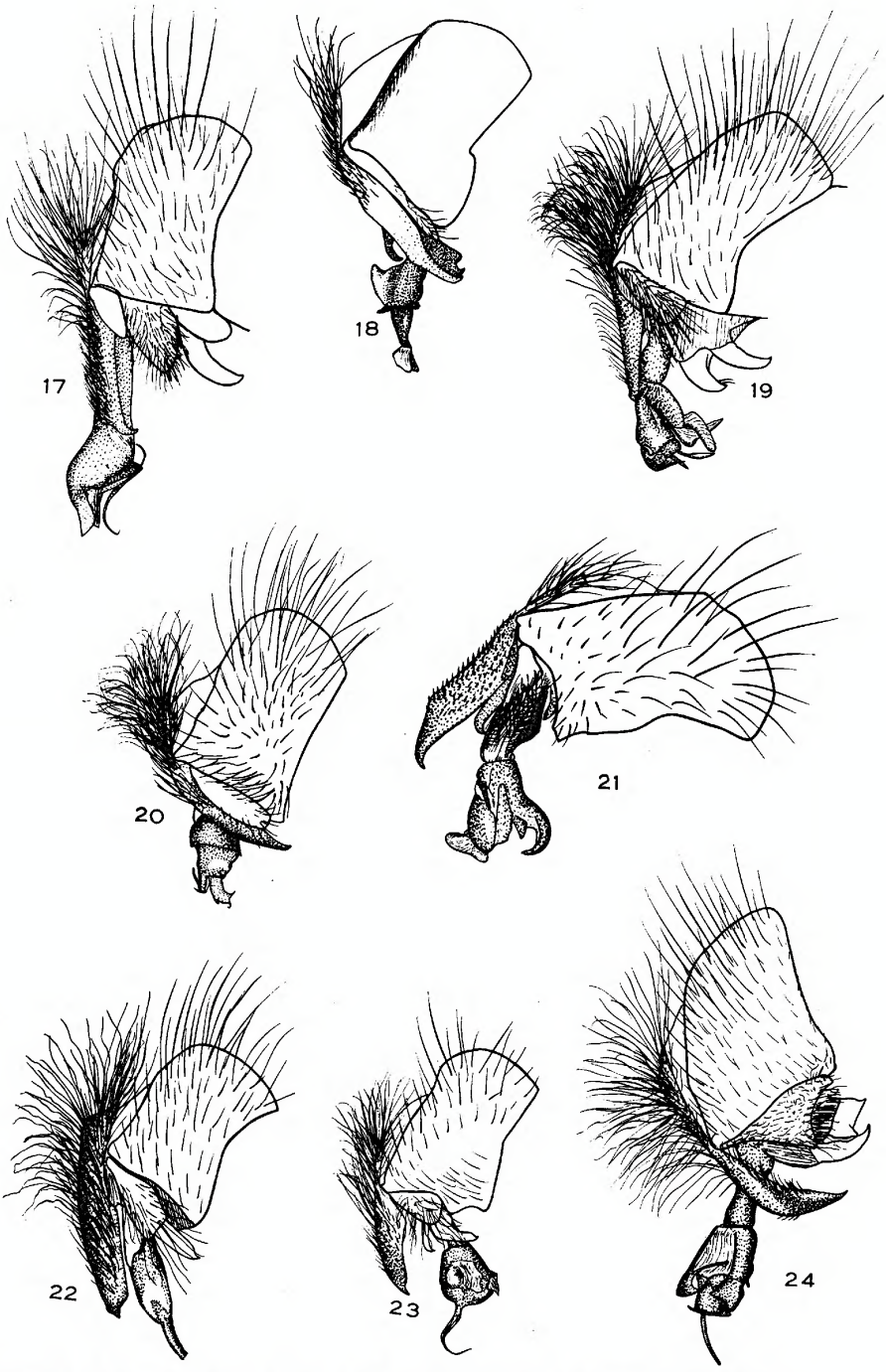

Fig. 17. *Sarcophaga villa*, new species.
Fig. 18. *Sarcophaga alina*, new species.
Fig. 19. *Sarcophaga inzi*, new species.
Fig. 20. *Sarcophaga kisangani*, new species.
Fig. 21. *Poecilometopa notatipennis* Austen.
Fig. 22. *Sarcophaga vicaria*, new species.
Fig. 23. *Helicobia munroi*, new species.
Fig. 24. *Sarcophaga furcadorsalis* Rohdendorf.

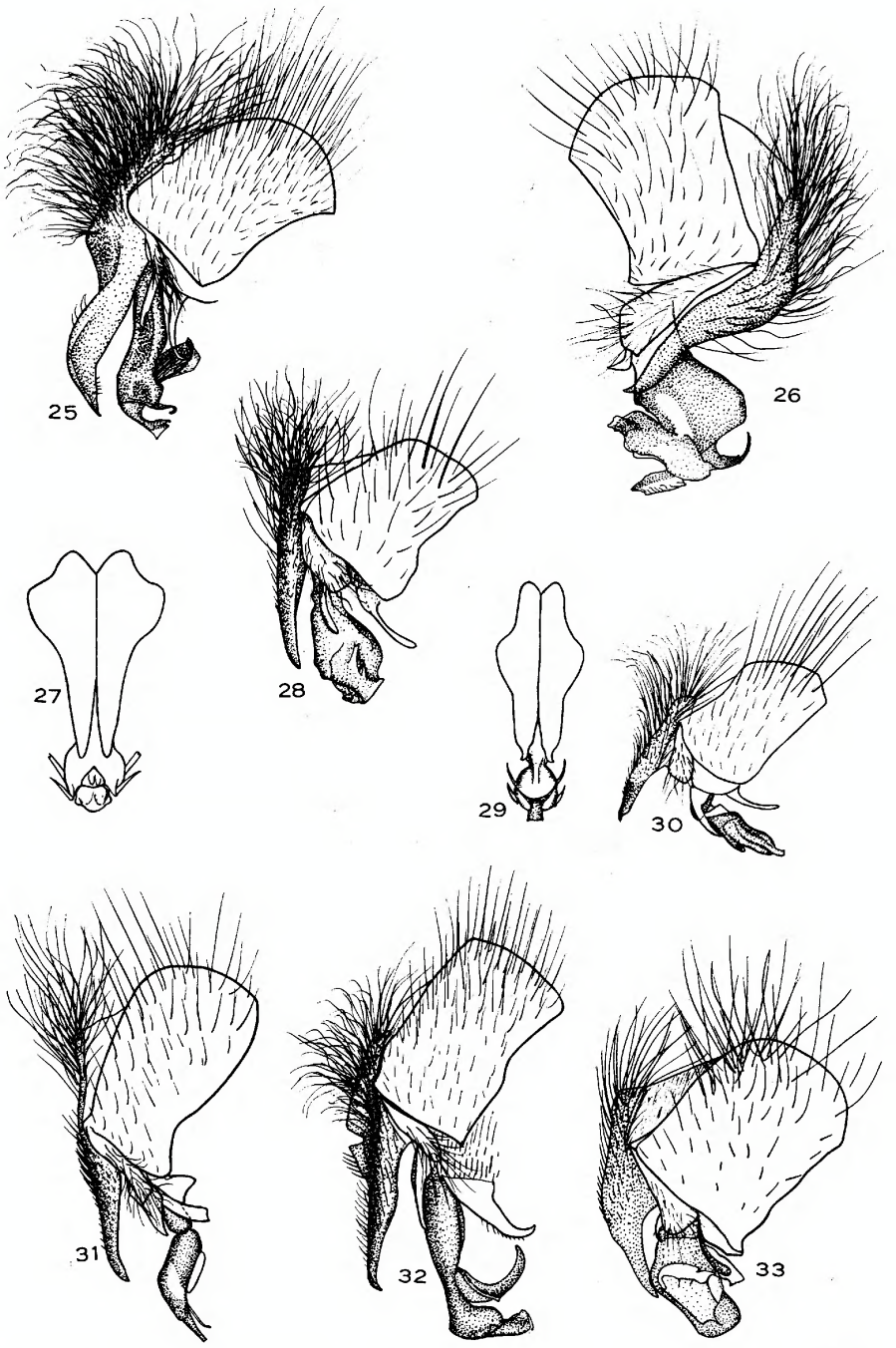

Fig. 25. *Sarcophaga falciforceps* Villeneuve.
Fig. 26. *Sarcophaga momba*, new species.
Fig. 27. *Sarcophaga liberia*, new species.
Fig. 28. *Sarcophaga liberia*, new species.
Fig. 29. *Sarcophaga samia*, new species.
Fig. 30. *Sarcophaga samia*, new species.
Fig. 31. *Sarcophaga batissa*, new species.
Fig. 32. *Sarcophaga haemorrhoidalis* Fallén.
Fig. 33. *Poecilometopa congensis*, new species.

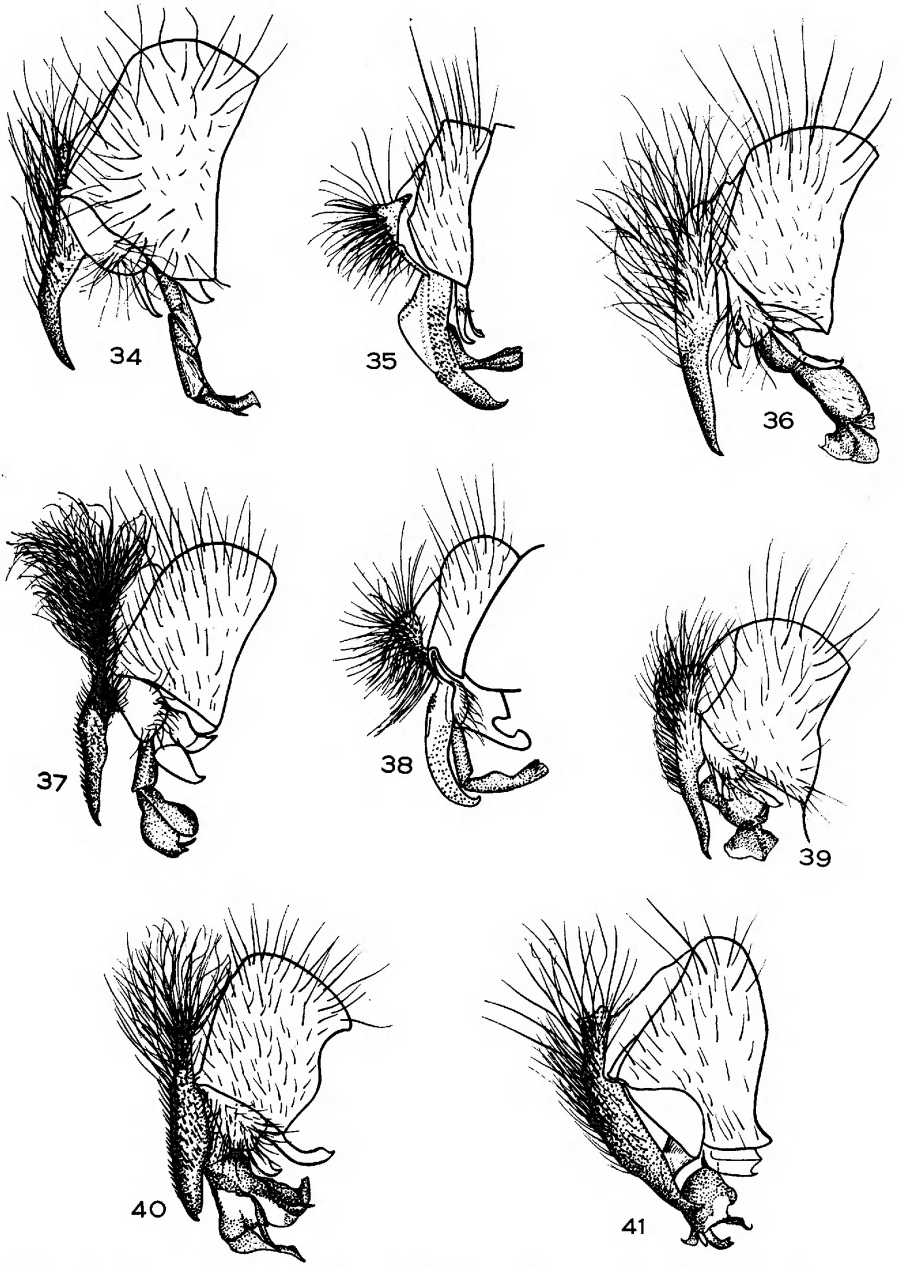

Fig. 34. *Sarcophaga chapini*, new species.
Fig. 35. *Sarcophaga fasciventris*, new species.
Fig. 36. *Helicobia selene*, new species.
Fig. 37. *Sarcophaga gnu*, new species.
Fig. 38. *Sarcophaga binodosa*, new species
Fig. 39. *Helicobia alerta*, new species.
Fig. 40. *Sarcophaga musitali*, new species.
Fig. 41. *Sarcophaga bulamatadi*, new species.